

Please replace the paragraph beginning at line 17 page 29 with the following rewritten paragraph:

-- Figure 14 is a schematic illustrating a preferred embodiment of a device in accordance with the invention where the device further comprises a sensor, 37. --

In the Claims

1. (Amended) An apparatus for selectively controlling the direction of a well bore comprising:
- a mandrel rotatable about a rotation axis;
 - a direction controller comprising three parts configured to apply a force to the mandrel having a component perpendicular to the rotation axis and having a component parallel to the rotation axis wherein the mandrel freely rotates within the direction controller;
 - a housing having an eccentric longitudinal bore forming a weighted side and being configured to freely rotate under gravity about the rotation axis wherein the housing contains the direction controller; and
 - a driver for selectively varying the angle of the force relative to the weighted side of the housing about the rotation axis wherein the driver is configured to move the direction controller independently of the housing.
2. (Cancelled - all rights retained for subsequent filing)
3. (Amended) The apparatus of claim 1, wherein the parts are configured to apply a null force to the mandrel.
4. (Amended) The apparatus of claim 1, wherein the direction controller comprises a single sleeve with an eccentric bore to receive the mandrel, the driver being configured to selectively rotate said sleeve about the rotation axis relative to the housing.
5. (Amended) The apparatus of claim 1, wherein the direction controller comprises a

first sleeve with an eccentric bore, a second sleeve with an eccentric bore and a third sleeve extending between the sleeves.

6. (Amended) The apparatus of claim 1, wherein the direction controller comprises a first sleeve with an eccentric bore, a second sleeve with a concentric bore and a third sleeve extending between the sleeves.

7. (Amended) The apparatus of claim 5, wherein the driver is configured to move the sleeves independently of one another.

8. (Amended) The apparatus of claim 6, wherein the driver means is configured to move the sleeves independently of one another.

9. (Original) The apparatus of claim 4, wherein said sleeve is at least partially located within said eccentric bore of said housing.

10. (Cancelled - all rights retained for subsequent filing)

11. (Cancelled - all rights retained for subsequent filing)

12. (Cancelled - all rights retained for subsequent filing)

13. (Cancelled - all rights retained for subsequent filing)

14. (Cancelled - all rights retained for subsequent filing)

15. (Cancelled - all rights retained for subsequent filing)

16. (Cancelled - all rights retained for subsequent filing)

17. (Amended) An apparatus for selectively controlling the direction of a wellbore comprising:

a mandrel rotatable about a rotation axis;

a direction controller comprising a plurality of parts configured to apply a vector force to the mandrel;

a housing having an eccentric longitudinal bore forming a weighted side and being configured to freely rotate under gravity; and

drive means for selectively varying the angle of the force relative to the weighted side of the housing about the rotation axis the drive means being configured to move the direction controller independent of the housing, and

wherein the mandrel freely rotates within the direction controller and wherein the

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housing contains the direction controller.

18. (Original) The apparatus of claim 1, further comprising a plurality of stabiliser shoes provided on the outside of said housing.

19. (Original) The apparatus of claim 18, wherein the plurality of stabiliser shoes are circumferentially offset by a predetermined amount in relation to the weight of said housing.

20. (Original) The apparatus of claim 18, having two stabiliser shoes.

21. (Amended) The apparatus of claim 1, wherein the driver is configured to change the direction within a tolerance between 5° and 1°.

22. (Amended) The apparatus of claim 1, wherein the driver comprises an electric motor.

23. (Original) The apparatus of claim 1, further comprising logic means for determining when the direction of the force applied by said direction controller should be moved.

24. (Original) The apparatus of claim 23, wherein said logic means comprises a sensor for sensing drilling parameters and decoding such parameters to determine when the direction of the force applied by said direction controller should be changed.

25. (Original) The apparatus of claim 23, wherein said logic means comprises a sensor for sensing well bore fluid flow pulses and decoding said pulses to determine when the direction of the force applied by said direction controller should be changed.

26. (Original) The apparatus of claim 23, wherein the logic means further comprises means for decoding and commanding said driver to change the direction of said force relative to the housing.

27. (Original) The apparatus of claim 23, wherein said driver and said logic means are stored with said housing.

28. (Original) The apparatus of claim 23, wherein said logic means are located within a tubular housing connected at least one of the mandrel, direction controller or housing.

29. (Original) The apparatus of claim 23, further comprising an energy source for supplying power to the driver and/or the logic means.

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30. (Original) The apparatus of claim 1, wherein the mandrel comprises a longitudinal bore and said bore is capable of passing wellbore fluids.30.
31. (Amended) The apparatus of claim 1, further comprising signalling means for signalling the direction of the force relative to the weighted side of the housing.
32. (Amended) The apparatus of claim 24, wherein the mandrel is connected to a drill string wherein the drilling parameters include drill string rotation and the logic means includes means for detecting drill string rotation wherein said drill string rotation determines when the angle of the force is changed with respect to the outer housing.
33. (Cancelled - all rights retained for subsequent filing)
34. (Original) The apparatus of claim 24, wherein said mandrel is connected to a drill string wherein said drilling parameters include drill pipe rotation and said logic means includes means for detecting drill string rotation and determining a time period between rotation and non-rotation of the drill string wherein said time period determines when the angle of said force should be changed with respect to the weighted side of said housing.
35. (Cancelled - all rights retained for subsequent filing)
36. (Cancelled - all rights retained for subsequent filing)
37. (Cancelled - all rights retained for subsequent filing)
38. (Cancelled - all rights retained for subsequent filing)
39. (Cancelled - all rights retained for subsequent filing)
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41. (Cancelled - all rights retained for subsequent filing)
42. (Cancelled - all rights retained for subsequent filing)
43. (Cancelled - all rights retained for subsequent filing)
44. (Cancelled - all rights retained for subsequent filing)
45. (Cancelled - all rights retained for subsequent filing)
46. (Cancelled - all rights retained for subsequent filing)
47. (Original) The apparatus of claim 1, wherein said driver comprises a drive wheel and a track, said drive wheel being engagable with said track such that movement of

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said drive wheel causes movement of said track relative to said drive wheel and said drive wheel when stationary prevents movement between said track and drive wheel, the drive wheel and track being located such that movement of the drive wheel effects relative movement between the force and the weighted side of the housing.

48. (Original) The apparatus of claim 47, wherein said track is located on a surface of said housing and said drive wheel is mechanically connected to said direction controller.

49. (Original) The apparatus of claim 47, wherein the track is located on an inner surface of said housing.

50. (Original) The apparatus of claim 47, wherein said track is located on a surface of said direction control means and said drive wheel is mechanically connected to said housing.

51. (Amended) The apparatus of claim 1, wherein the driver comprises a hydraulic motor.

52. (Original) The apparatus of claim 47, wherein said drive wheel comprises a plurality of teeth about its edge, and said track comprises a plurality of teeth which are configured to interlock with the teeth of said drive wheel to effect relative movement therebetween.

53. (Original) The apparatus of claim 47, wherein the direction of the force is changed by a predetermined angle in response to rotation of said drive wheel through a predetermined rotation angle.

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